

From: [Turner, Nardina](#)
To: [Saskowski, Ronald](#)
Subject: FW: R4 LIMS Results: Project 19-0198, E191506 PHYSP TMTL 04 25 19 1008
Date: Friday, March 6, 2020 2:49:42 PM
Attachments: [E191506 PHYSP TMTL FINAL 04 25 19 1008.PDF](#)
[E191506 PHYSP TMTL FINAL 04 25 19 1008 - 19-0198 - ELM STREET LEAD 04-25-2019.GAN000407160.Dat](#)

From: R4LIMS@epa.gov <R4LIMS@epa.gov>
Sent: Thursday, April 25, 2019 11:30 AM
To: Berry, Chuck <Berry.Chuck@epa.gov>
Cc: Turner, Nardina <Turner.Nardina@epa.gov>; Lkrebs@otie.com; Saskowski, Ronald <Saskowski.Ronald@epa.gov>; Hendel, Jeffrey <Hendel.Jeffrey@epa.gov>; Aker, Sandra <Aker.Sandra@epa.gov>
Subject: R4 LIMS Results: Project 19-0198, E191506 PHYSP TMTL 04 25 19 1008

On Thursday, April 25, 2019, results for the following were released by the Region 4 Laboratory:

Analyses:

Physical Properties (PHYSP)

Total Metals (TMTL)

Project Number: 19-0198

Project Name: Elm Street Lead

City: Atlanta **County:** Fulton **State:** GA

These results were reported by:

Jeffrey Hendel (E-mail: Hendel.Jeffrey@epa.gov)

If you have questions concerning the laboratory results, please feel free to contact the laboratory personnel shown above as having reported the data. We also encourage you to provide feedback to the Region 4 laboratory by filling out our online (*EPA internal network only*) [Customer Survey Form](#).

These results are for the following Sample Type(s):

Soil (Surface Soil)

PDF DATA RESULTS REPORT FILE ATTACHMENT:

An Adobe Acrobat PDF file is attached to this message that contains final results for the analyses as indicated in the data report.

DATA EXPORT FILE ATTACHMENT:

If attached, data export files will be tab delimited ASCII text files contained in a file that has been formatted using the ZIP archiving format (.Dat extension). Please consult your local computer support personnel if you have problems extracting these files. If you have questions about the data file formats and the information contained

in these files, or if you would like to request export files for previously reported data, use the contact information shown below to contact the appropriate person with your concerns. To generate export files for previously reported data we'll need the name of the PDF report file that was attached to the original transmittal message.

For questions concerning this message and attachments, or any other LIMS or data reporting issues, please call the SEDS PC Hotline at 706-355-8825 or send an email to r4lims@epa.gov.

SAMPLE DISPOSAL POLICY:

Due to limited space for long term sample storage, ASB's policy is to dispose of samples on a periodic schedule. Air samples collected in summa canisters will be disposed of 30 days following the issuance of this report. All other sample media including original samples, sample extracts and or digestates will be disposed of, in accordance with applicable regulations, 60 days from the date of this report.

This sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time. If samples require storage beyond the 60-day period, please contact the Sample Control Coordinator by e-mail at R4SampleCustody@epa.gov.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

April 25, 2019

4SESD-ASB

MEMORANDUM

SUBJECT: FINAL Analytical Report
Project: 19-0198, Elm Street Lead

FROM: Jeffrey Hendel
ASB Inorganic Chemistry Section Chief

THRU: Sandra Aker, Chief
Analytical Services Branch

TO: Chuck Berry

Attached are the final results for the analytical groups listed below. These analyses were performed in accordance with the Analytical Services Branch's (ASB) Laboratory Operations and Quality Assurance Manual (ASB LOQAM) found at www.epa.gov/region4/sesd/asbsop. Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the ASB LOQAM specifications and have been qualified by this laboratory if the applicable quality control criteria were not met. Verification is defined in Section 5.2 of the ASB LOQAM. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:	Method Used:	Accreditations:
Physical Properties (PHYSP)		
Physical Properties	EPA 200.2 (Soil)	ISO
Total Metals (TMTL)		
Total Metals	EPA 200.8 (Soil)	ISO
Total Metals	EPA 6010 (Soil)	ISO



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cc: Nardina Turner



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

SAMPLES INCLUDED IN THIS REPORT

Project: 19-0198, Elm Street Lead

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
ESL-1003A-032719-S3	E191506-01	Surface Soil	3/27/19 11:00	4/11/19 9:55
ESL-1009D-032719-S3	E191506-02	Surface Soil	3/27/19 10:15	4/11/19 9:55
ESL-1009E-032719-S3	E191506-03	Surface Soil	3/27/19 09:45	4/11/19 9:55
ESL-1009O-032719-S3	E191506-04	Surface Soil	3/27/19 13:50	4/11/19 9:55
ESL-1015B-032719-S3	E191506-05	Surface Soil	3/27/19 13:00	4/11/19 9:55
ESL-1015C-032719-S3	E191506-06	Surface Soil	3/27/19 13:30	4/11/19 9:55
ESL-1038B-032719-S3	E191506-07	Surface Soil	3/27/19 14:15	4/11/19 9:55
ESL-1038C-032719-S3	E191506-08	Surface Soil	3/27/19 14:45	4/11/19 9:55
ESL-1038Cdup-032719-S3	E191506-09	Surface Soil	3/27/19 14:45	4/11/19 9:55



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DATA QUALIFIER DEFINITIONS

U The analyte was not detected at or above the reporting limit.

ACRONYMS AND ABBREVIATIONS

CAS Chemical Abstracts Service

Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.

MDL Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.

MRL Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.

TIC Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

ACCREDITATIONS:

ISO ASB is accredited by ISO/IEC 17025, including an amplification for forensic accreditation through ANSI-ASQ National Accreditation Board.

Refer to the certificate and scope of accreditation AT-1644 at:
<http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd>

NR The EPA Region 4 Laboratory has not requested accreditation for this test.



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Total Metals

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1003A-032719-S3

Lab ID: E191506-01

Station ID: ESL1003A

Matrix: Surface Soil

Date Collected: 3/27/19 11:00

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
7440-38-2	Arsenic	3.7		mg/kg dry	0.20	4/18/19 10:27	4/23/19 19:36	EPA 200.8
7440-39-3	Barium	290		mg/kg dry	1.5	4/18/19 10:20	4/23/19 11:58	EPA 6010
7440-43-9	Cadmium	1.0		mg/kg dry	0.099	4/18/19 10:27	4/23/19 19:36	EPA 200.8
7440-47-3	Chromium	25		mg/kg dry	1.5	4/18/19 10:20	4/23/19 11:58	EPA 6010
7439-92-1	Lead	410		mg/kg dry	5.0	4/18/19 10:27	4/23/19 18:22	EPA 200.8
7439-97-6	Mercury	0.27		mg/kg dry	0.080	4/18/19 10:27	4/23/19 19:36	EPA 200.8
7782-49-2	Selenium	0.43		mg/kg dry	0.40	4/18/19 10:27	4/23/19 19:36	EPA 200.8
7440-22-4	Silver	1.5 U		mg/kg dry	1.5	4/18/19 10:20	4/23/19 11:58	EPA 6010



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Physical Properties

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1003A-032719-S3

Lab ID: E191506-01

Station ID: ESL1003A

Matrix: Surface Soil

Date Collected: 3/27/19 11:00

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
E1642941	% Solids	91		%	0.0	4/17/19 14:14	4/18/19 9:30	EPA 200.2



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Total Metals

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1009D-032719-S3

Lab ID: E191506-02

Station ID: ESL1009D

Matrix: Surface Soil

Date Collected: 3/27/19 10:15

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7440-38-2	Arsenic	2.2		mg/kg dry	0.20	4/18/19 10:27	4/23/19 19:51	EPA 200.8
7440-39-3	Barium	230		mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:07	EPA 6010
7440-43-9	Cadmium	1.1		mg/kg dry	0.098	4/18/19 10:27	4/23/19 19:51	EPA 200.8
7440-47-3	Chromium	33		mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:07	EPA 6010
7439-92-1	Lead	250		mg/kg dry	2.5	4/18/19 10:27	4/23/19 18:37	EPA 200.8
7439-97-6	Mercury	0.24		mg/kg dry	0.078	4/18/19 10:27	4/23/19 19:51	EPA 200.8
7782-49-2	Selenium	0.39	U	mg/kg dry	0.39	4/18/19 10:27	4/23/19 19:51	EPA 200.8
7440-22-4	Silver	1.5	U	mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:07	EPA 6010



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Physical Properties

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1009D-032719-S3

Lab ID: E191506-02

Station ID: ESL1009D

Matrix: Surface Soil

Date Collected: 3/27/19 10:15

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
E1642941	% Solids	89		%	0.0	4/17/19 14:14	4/18/19 9:30	EPA 200.2



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Total Metals

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1009E-032719-S3

Lab ID: E191506-03

Station ID: ESL1009E

Matrix: Surface Soil

Date Collected: 3/27/19 9:45

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7440-38-2	Arsenic	2.7		mg/kg dry	0.20	4/18/19 10:27	4/23/19 20:06	EPA 200.8
7440-39-3	Barium	240		mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:10	EPA 6010
7440-43-9	Cadmium	1.2		mg/kg dry	0.099	4/18/19 10:27	4/23/19 20:06	EPA 200.8
7440-47-3	Chromium	34		mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:10	EPA 6010
7439-92-1	Lead	290		mg/kg dry	2.5	4/18/19 10:27	4/23/19 18:42	EPA 200.8
7439-97-6	Mercury	0.30		mg/kg dry	0.079	4/18/19 10:27	4/23/19 20:06	EPA 200.8
7782-49-2	Selenium	0.44		mg/kg dry	0.40	4/18/19 10:27	4/23/19 20:06	EPA 200.8
7440-22-4	Silver	1.5	U	mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:10	EPA 6010



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Physical Properties

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1009E-032719-S3

Lab ID: E191506-03

Station ID: ESL1009E

Matrix: Surface Soil

Date Collected: 3/27/19 9:45

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
E1642941	% Solids	88		%	0.0	4/17/19 14:14	4/18/19 9:30	EPA 200.2



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Total Metals

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1009O-032719-S3

Lab ID: E191506-04

Station ID: ESL1009O

Matrix: Surface Soil

Date Collected: 3/27/19 13:50

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7440-38-2	Arsenic	1.5		mg/kg dry	0.20	4/18/19 10:27	4/23/19 20:10	EPA 200.8
7440-39-3	Barium	240		mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:13	EPA 6010
7440-43-9	Cadmium	0.88		mg/kg dry	0.10	4/18/19 10:27	4/23/19 20:10	EPA 200.8
7440-47-3	Chromium	34		mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:13	EPA 6010
7439-92-1	Lead	200		mg/kg dry	2.5	4/18/19 10:27	4/23/19 18:57	EPA 200.8
7439-97-6	Mercury	0.22		mg/kg dry	0.080	4/18/19 10:27	4/23/19 20:10	EPA 200.8
7782-49-2	Selenium	0.40	U	mg/kg dry	0.40	4/18/19 10:27	4/23/19 20:10	EPA 200.8
7440-22-4	Silver	1.5	U	mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:13	EPA 6010



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Physical Properties

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1009O-032719-S3

Lab ID: E191506-04

Station ID: ESL1009O

Matrix: Surface Soil

Date Collected: 3/27/19 13:50

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
E1642941	% Solids	92		%	0.0	4/17/19 14:14	4/18/19 9:30	EPA 200.2



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Total Metals

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1015B-032719-S3

Lab ID: E191506-05

Station ID: ESL1015B

Matrix: Surface Soil

Date Collected: 3/27/19 13:00

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7440-38-2	Arsenic	9.8		mg/kg dry	0.20	4/18/19 10:27	4/23/19 20:15	EPA 200.8
7440-39-3	Barium	400		mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:16	EPA 6010
7440-43-9	Cadmium	2.5		mg/kg dry	0.10	4/18/19 10:27	4/23/19 20:15	EPA 200.8
7440-47-3	Chromium	30		mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:16	EPA 6010
7439-92-1	Lead	1400		mg/kg dry	10	4/18/19 10:27	4/23/19 19:02	EPA 200.8
7439-97-6	Mercury	0.54		mg/kg dry	0.080	4/18/19 10:27	4/23/19 20:15	EPA 200.8
7782-49-2	Selenium	0.40	U	mg/kg dry	0.40	4/18/19 10:27	4/23/19 20:15	EPA 200.8
7440-22-4	Silver	1.5	U	mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:16	EPA 6010



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Physical Properties

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1015B-032719-S3

Lab ID: E191506-05

Station ID: ESL1015B

Matrix: Surface Soil

Date Collected: 3/27/19 13:00

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
E1642941	% Solids	87		%	0.0	4/17/19 14:14	4/18/19 9:30	EPA 200.2



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Total Metals

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1015C-032719-S3

Lab ID: E191506-06

Station ID: ESL1015C

Matrix: Surface Soil

Date Collected: 3/27/19 13:30

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
7440-38-2	Arsenic	7.2		mg/kg dry	0.20	4/18/19 10:27	4/23/19 20:30	EPA 200.8
7440-39-3	Barium	530		mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:19	EPA 6010
7440-43-9	Cadmium	3.2		mg/kg dry	0.098	4/18/19 10:27	4/23/19 20:30	EPA 200.8
7440-47-3	Chromium	37		mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:19	EPA 6010
7439-92-1	Lead	1100		mg/kg dry	9.8	4/18/19 10:27	4/23/19 19:07	EPA 200.8
7439-97-6	Mercury	0.64		mg/kg dry	0.079	4/18/19 10:27	4/23/19 20:30	EPA 200.8
7782-49-2	Selenium	0.46		mg/kg dry	0.39	4/18/19 10:27	4/23/19 20:30	EPA 200.8
7440-22-4	Silver	1.5 U		mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:19	EPA 6010



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Physical Properties

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1015C-032719-S3

Lab ID: E191506-06

Station ID: ESL1015C

Matrix: Surface Soil

Date Collected: 3/27/19 13:30

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1642941	% Solids	87		%	0.0	4/17/19 14:14	4/18/19 9:30	EPA 200.2



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Total Metals

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1038B-032719-S3

Lab ID: E191506-07

Station ID: ESL1038B

Matrix: Surface Soil

Date Collected: 3/27/19 14:15

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7440-38-2	Arsenic	9.7		mg/kg dry	0.20	4/18/19 10:27	4/23/19 20:35	EPA 200.8
7440-39-3	Barium	430		mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:25	EPA 6010
7440-43-9	Cadmium	2.4		mg/kg dry	0.098	4/18/19 10:27	4/23/19 20:35	EPA 200.8
7440-47-3	Chromium	32		mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:25	EPA 6010
7439-92-1	Lead	1200		mg/kg dry	9.8	4/18/19 10:27	4/23/19 19:12	EPA 200.8
7439-97-6	Mercury	0.43		mg/kg dry	0.078	4/18/19 10:27	4/23/19 20:35	EPA 200.8
7782-49-2	Selenium	0.39	U	mg/kg dry	0.39	4/18/19 10:27	4/23/19 20:35	EPA 200.8
7440-22-4	Silver	1.5	U	mg/kg dry	1.5	4/18/19 10:20	4/23/19 12:25	EPA 6010



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Physical Properties

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1038B-032719-S3

Lab ID: E191506-07

Station ID: ESL1038B

Matrix: Surface Soil

Date Collected: 3/27/19 14:15

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1642941	% Solids	92		%	0.0	4/17/19 14:14	4/18/19 9:30	EPA 200.2



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Total Metals

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1038C-032719-S3

Lab ID: E191506-08

Station ID: ESL1038C

Matrix: Surface Soil

Date Collected: 3/27/19 14:45

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7440-38-2	Arsenic	17		mg/kg dry	0.20	4/18/19 10:27	4/23/19 20:40	EPA 200.8
7440-39-3	Barium	1700		mg/kg dry	5.0	4/18/19 10:20	4/23/19 12:28	EPA 6010
7440-43-9	Cadmium	4.9		mg/kg dry	0.099	4/18/19 10:27	4/23/19 20:40	EPA 200.8
7440-47-3	Chromium	43		mg/kg dry	5.0	4/18/19 10:20	4/23/19 12:28	EPA 6010
7439-92-1	Lead	3200		mg/kg dry	25	4/18/19 10:27	4/23/19 19:16	EPA 200.8
7439-97-6	Mercury	0.47		mg/kg dry	0.079	4/18/19 10:27	4/23/19 20:40	EPA 200.8
7782-49-2	Selenium	0.69		mg/kg dry	0.40	4/18/19 10:27	4/23/19 20:40	EPA 200.8
7440-22-4	Silver	5.0	U	mg/kg dry	5.0	4/18/19 10:20	4/23/19 12:28	EPA 6010



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Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Physical Properties

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1038C-032719-S3

Lab ID: E191506-08

Station ID: ESL1038C

Matrix: Surface Soil

Date Collected: 3/27/19 14:45

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
E1642941	% Solids	86		%	0.0	4/17/19 14:14	4/18/19 9:30	EPA 200.2



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Total Metals

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1038Cdup-032719-S3

Lab ID: E191506-09

Station ID: ESL1038C

Matrix: Surface Soil

Date Collected: 3/27/19 14:45

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
7440-38-2	Arsenic	18		mg/kg dry	0.20	4/18/19 10:27	4/23/19 20:45	EPA 200.8
7440-39-3	Barium	1800		mg/kg dry	5.0	4/18/19 10:20	4/23/19 12:31	EPA 6010
7440-43-9	Cadmium	5.4		mg/kg dry	0.10	4/18/19 10:27	4/23/19 20:45	EPA 200.8
7440-47-3	Chromium	42		mg/kg dry	5.0	4/18/19 10:20	4/23/19 12:31	EPA 6010
7439-92-1	Lead	3400		mg/kg dry	25	4/18/19 10:27	4/23/19 19:21	EPA 200.8
7439-97-6	Mercury	0.56		mg/kg dry	0.080	4/18/19 10:27	4/23/19 20:45	EPA 200.8
7782-49-2	Selenium	0.58		mg/kg dry	0.40	4/18/19 10:27	4/23/19 20:45	EPA 200.8
7440-22-4	Silver	5.0 U		mg/kg dry	5.0	4/18/19 10:20	4/23/19 12:31	EPA 6010



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Physical Properties

Project: 19-0198, Elm Street Lead

Sample ID: ESL-1038Cdup-032719-S3

Lab ID: E191506-09

Station ID: ESL1038C

Matrix: Surface Soil

Date Collected: 3/27/19 14:45

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
E1642941	% Solids	87		%	0.0	4/17/19 14:14	4/18/19 9:30	EPA 200.2



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Total Metals (TMTL) - Quality Control

US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1904054 - M 200.2 Metals Soil

Blank (1904054-BLK1)

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 6010

Barium	U	0.50	mg/kg dry							U
Chromium	U	0.50	"							U
Silver	U	0.50	"							U

Blank (1904054-BLK2)

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 6010

Barium	U	0.50	mg/kg dry							U
Chromium	U	0.50	"							U
Silver	U	0.50	"							U

LCS (1904054-BS1)

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 6010

Barium	49.723	0.50	mg/kg dry	50.000		99.4	85-115			
Chromium	48.872	0.50	"	50.000		97.7	85-115			
Silver	9.1820	0.50	"	10.000		91.8	85-115			

Matrix Spike (1904054-MS1)

Source: E191506-01

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 6010

Barium	334.74	1.5	mg/kg dry	49.554	289.79	90.7	75-125			
Chromium	72.432	1.5	"	49.554	24.641	96.4	75-125			
Silver	9.3599	1.5	"	9.9108	0.37333	90.7	75-125			

Matrix Spike Dup (1904054-MSD1)

Source: E191506-01

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 6010

Barium	336.97	1.5	mg/kg dry	49.702	289.79	94.9	75-125	0.664	20	
Chromium	70.970	1.5	"	49.702	24.641	93.2	75-125	2.04	20	
Silver	9.4036	1.5	"	9.9404	0.37333	90.8	75-125	0.466	20	

MRL Verification (1904054-PS1)

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 6010

Barium	0.51734	0.50	mg/kg dry	0.50000		103	70-130			MRL-3
Chromium	0.54263	0.50	"	0.50000		109	70-130			MRL-3
Silver	0.47726	0.50	"	0.50000		95.5	70-130			MRL-3, U



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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Total Metals (TMTL) - Quality Control

US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1904055 - M 200.2 Metals Soil

Blank (1904055-BLK1)

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 200.8

Arsenic	U	0.10	mg/kg dry							U
Cadmium	U	0.050	"							U
Lead	U	0.10	"							U
Mercury	U	0.040	"							U
Selenium	U	0.20	"							U

Blank (1904055-BLK2)

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 200.8

Arsenic	U	0.10	mg/kg dry							U
Cadmium	U	0.050	"							U
Lead	U	0.10	"							U
Mercury	U	0.040	"							U
Selenium	U	0.20	"							U

LCS (1904055-BS1)

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 200.8

Arsenic	47.133	1.2	mg/kg dry	50.000		94.3	85-115			
Cadmium	20.294	0.62	"	20.000		101	85-115			
Lead	100.87	1.2	"	100.00		101	85-115			
Mercury	5.0177	0.50	"	5.0000		100	85-115			
Selenium	101.41	2.5	"	100.00		101	85-115			

Matrix Spike (1904055-MS1)

Source: E191506-01

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 200.8

Arsenic	45.601	5.0	mg/kg dry	49.554	U	92.0	70-130			
Cadmium	20.795	2.5	"	19.822	U	105	70-130			
Lead	487.09	5.0	"	99.108	407.20	80.6	70-130			XM-1
Mercury	5.1981	2.0	"	4.9554	U	105	70-130			
Selenium	87.333	9.9	"	99.108	3.8639	84.2	70-130			

Matrix Spike (1904055-MS2)

Source: E191506-01RE1

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 200.8

Arsenic	48.684	1.2	mg/kg dry	49.554	3.6798	90.8	70-130			
Cadmium	20.666	0.62	"	19.822	1.0309	99.1	70-130			
Lead	485.38	1.2	"	99.108	355.67	131	70-130			XM-1
Mercury	4.9416	0.50	"	4.9554	0.27422	94.2	70-130			
Selenium	86.481	2.5	"	99.108	U	87.3	70-130			



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Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Total Metals (TMTL) - Quality Control

US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1904055 - M 200.2 Metals Soil

Matrix Spike Dup (1904055-MSD1)

Source: E191506-01

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 200.8

Arsenic	44.333	5.0	mg/kg dry	49.702	U	89.2	70-130	2.82	20	
Cadmium	20.805	2.5	"	19.881	U	105	70-130	0.0512	20	
Lead	479.73	5.0	"	99.404	407.20	73.0	70-130	1.52	20	XM-1
Mercury	4.7829	2.0	"	4.9702	U	96.2	70-130	8.32	20	
Selenium	78.019	9.9	"	99.404	3.8639	74.6	70-130	11.3	20	

Matrix Spike Dup (1904055-MSD2)

Source: E191506-01RE1

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 200.8

Arsenic	48.489	1.2	mg/kg dry	49.702	3.6798	90.2	70-130	0.402	20	
Cadmium	20.671	0.62	"	19.881	1.0309	98.8	70-130	0.0234	20	
Lead	498.78	1.2	"	99.404	355.67	144	70-130	2.72	20	XM-1
Mercury	5.1554	0.50	"	4.9702	0.27422	98.2	70-130	4.23	20	
Selenium	77.699	2.5	"	99.404	U	78.2	70-130	10.7	20	

MRL Verification (1904055-PS1)

Prepared: 04/18/19 Analyzed: 04/23/19

EPA 200.8

Arsenic	0.070778	0.10	mg/kg dry	0.10000		70.8	65-135			MRL-3, U
Cadmium	0.049086	0.050	"	0.050000		98.2	65-135			MRL-3, U
Lead	0.10594	0.10	"	0.10000		106	65-135			MRL-3
Mercury	0.080087	0.040	"	0.080000		100	65-135			MRL-3
Selenium	0.25555	0.20	"	0.20000		128	65-135			MRL-3



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Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Physical Properties (PHYSP) - Quality Control

US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1904052 - M % Solids

Duplicate (1904052-DUP1)

Source: E191506-09

Prepared: 04/17/19 Analyzed: 04/18/19

EPA 200.2

% Solids	86.736	0.0	%		86.577			0.183	10	
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D.A.R.T. Id: 19-0198

Project: 19-0198, Elm Street Lead - Reported by Jeffrey Hendel

Notes and Definitions for QC Samples

U	The analyte was not detected at or above the reporting limit.
B-3	Level in blank does not impact data quality
MRL-3	MRL verification for Soil matrix
XM-1	Sample background/spike ratio higher than method evaluation criteria